

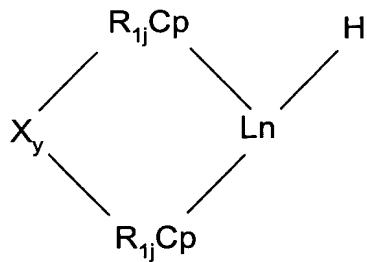
This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. - 25. (Canceled)

26. (Currently Amended) A method of preparing block copolymers, comprising the steps of polymerizing a first monomer consisting of an alpha-olefin containing from 3 to 20 carbon atoms into a first, isotactic block, using a catalyst, then polymerizing at least one second monomer,

said catalyst being in the form of a hydride complex of a trivalent metal from the rare earth group, having the formula I:



in which:

Cp is a cyclopentadienyl radical;

R₁, identical or different at each occurrence, is a substituent of the cyclopentadienyl group and is an alkyl radical or a silicon-containing hydrocarbon radical, unsubstituted and containing from 1 to 6 carbon atoms;

j, identical or different at each occurrence, is 1, 2 or 3;

X is a divalent alkylene radical containing from 1 to 20 carbon atoms or
Si(R)₂ ~~in + which in which~~

R is an alkyl radical having from 1 to 4 carbon atoms;

y is 1 or 2;

Ln is Y or Sm.

27. **(Currently Amended)** The method as claimed in claim 26, wherein, in the formula I, at least one R_{1j}Cp is the group 2-Me₃Si,4-Me₂tBuSiCp or the group 2-Me₃Si,4-tBuCp.

28. **(Previously Presented)** The method as claimed in claim 26, wherein the catalyst is Me₂Si(2-Me₃Si,4-Me₂tBuSiCp)₂YH or Me₂Si(2-Me₃Si,4-tBuCp)₂SmH.

29. **(Previously Presented)** The method as claimed in claim 26, wherein the catalyst is racemic.

30. **(Previously Presented)** The method as claimed in claim 26, wherein the catalyst is generated in situ in the presence of at least one portion of the first monomer.

31. **(Currently Amended)** The method as claimed in claim 26, wherein the catalyst is prepared by hydrogenation of ~~the~~ an alkyl precursor thereof.

32. **(Previously Presented)** The method as claimed in claim 26, wherein the blocks are homopolymers or random copolymers.

33. **(Currently Amended)** The method as claimed in claim 26, wherein the block copolymer comprises a block of a poly-alpha-olefin and a block of the polymerized second monomer which is a vinyl, vinylidene or lactone compound.

34. **(Currently Amended)** The method as claimed in claim 33, wherein the second monomer is a vinyl or vinylidene compound is represented by the formula $H_2C=CR'Z$ in which R' is hydrogen or an alkyl radical having from 1 to 12 carbon atoms and Z is an electron-withdrawing radical.

35. **(Previously Presented)** The method as claimed in claim 34, wherein the vinyl or vinylidene compound is an ester of an unsaturated carboxylic acid.

36. **(Previously Presented)** The method as claimed in claim 33, wherein the poly-alpha-olefin is crystalline.

37. **(Previously Presented)** The method as claimed in claim 26, wherein the second monomer is polar.

38. (Previously Presented) The method as claimed in claim 26, for preparing a poly-alpha-olefin/PMMA or poly-alpha-olefin/polylactone copolymer.

39. (Currently Amended) The method as claimed in claim 26, wherein the block copolymer comprises a block of a first poly-alpha-olefin and a block of the polymerized second monomer which is an alpha-olefin to provide a second poly-alpha-olefin.

40. (Previously Presented) The method as claimed in claim 39, wherein the first poly-alpha-olefin is crystalline and the second poly-alpha-olefin is crystalline.

41. (Previously Presented) The method as claimed in claim 40, for preparing a PP/PE copolymer.

42. (Currently Amended) The method as claimed in claim 38 39, wherein the first poly-alpha-olefin is crystalline and the second poly-alpha-olefin is amorphous.

43. (Previously Presented) The method as claimed in claim 42, for preparing a PP/EP copolymer.

44. (Previously Presented) The method as claimed in claim 26, wherein the block copolymer comprises a first iPP block.

45. (Previously Presented) The method as claimed in claim 26, wherein the catalyst is racemic and is generated in situ in the presence of at least one portion of the first monomer.

46. (Currently Amended) The method as claimed in claim 45, wherein the catalyst is prepared by hydrogenation of the an alkyl precursor thereof.

47. - 55. (Canceled)